



**BAR CODE MED ADMIN
(BCMA)**

Nursing CHUI User Manual

Version 1.0

August 1999

Department of Veterans Affairs
VISTA Technical Services

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1 OVERVIEW

1.1 What is BCMA?

Bar Code Med Admin (BCMA) software is a point-of-care solution for validating the administration of medications. The initial software development and hardware research done at the Eastern Kansas Health Care System, Colmery-O'Neil Division, VISN 15, Heartland Veterans Health Network, is the basis from which the standard product is being built. The existing software functionality, in addition to enhancements identified by a functional workgroup with Nursing and Pharmacy representatives from various Veterans Integrated Services Networks (VISNs), is being replicated with a graphical user interface (GUI) (MS Windows-based) client/server architecture.

Automation of the medication administration process will improve medication administration accuracy and increase the efficiency of documentation. As each patient wristband and medication is scanned by a bar code reader, the software will validate that the medication is ordered, timely, and in the correct dosage—as well as electronically update the medication administration history. BCMA software offers a tool to augment, not replace, the clinical judgment of the medication administrator.

1.2 Features of BCMA

BCMA:

- Increases medication administration accuracy
- Captures drug accountability data
- Increases the information available to Nursing staff at the patient point of care
- Reduces wasted medications
- Improves communication between Nursing and Pharmacy staffs
- Provides a real-time Virtual Due List of orders for medication administration
- Records refused medications
- Records missing doses and sends the requests electronically to the Pharmacy
- Provides a point-of-care data entry/retrieval system
- Provides full compatibility with the existing *VISTA* system
- Identifies PRN entries that require effectiveness comments
- Replaces the manual Medication Administration Record (MAR) with a Medication Administration History (MAH) to provide an automatic record of a patient's medication administration information
- Provides a list of variances that identify early or late medication administrations and late PRN effectiveness entries

1.3 Intranet Documentation

Documentation for this product can now be found on the Intranet at the following address:

<http://www.vista.med.va.gov/bcma>

At this address is information about BCMA, including background, technical information, and important user documentation.

 Remember to bookmark this site for future reference.

2 ABOUT THIS MANUAL

This manual contains a description of the Character-based User Interface (CHUI) options for the Nursing user. The manual is organized around the Medication Administration Menu Nursing Options. Accessing and using each option is explained. Included with each option are sample screen captures and reports.

An index and glossary are located at the end of this manual.

2.1 Special Instructions for the “First Time” Computer User

Users who are unfamiliar with BCMA or other Veterans Health Information Systems and Technology Architecture (**VISTA**) software applications are encouraged to study the DHCP Decentralized Hospital Computer Program (DHCP) *User’s Guide to Computing*. This orientation guide is a comprehensive handbook benefiting first-time users of any **VISTA** application. The purpose of the introductory material is to help users become familiar with basic computer terms and the components of a computer. It is reproduced and distributed periodically by the Kernel Development Group. To request a copy, users should contact their local Information Resources Management (IRM) staff.

2.2 Special Notations—Documentation Conventions

Responses in bold face indicate what the user is to type in. Example: In the Patient/Ward field, type **P** for Patient or **W** for Ward.

Text centered between arrows represents a keyboard key that needs to be pressed in order for the system to capture a user response or move the cursor to another field. **<Enter>** indicates that the Enter key (or Return key on some keyboards) must be pressed. **<Tab>** indicates that the Tab key must be pressed. Example: Press **<Tab>** to move the cursor to the next field, Type **Y** for Yes or **N** for No, and press **<Enter>**.

 Indicates especially important or helpful information.

2.3 Package Conventions

Up-arrows (caret or a circumflex)

^ In the CHUI application of BCMA, the user can move back to previous screens by entering a ^ and pressing **<Enter>**. Repeat this process until the desired screen is reached.

2.4 On-line Help

?, ??, ??? On-line help is available by entering one, two, or three question marks at a prompt. One question mark elicits a brief statement of what information is appropriate for the prompt; two question marks elicits more help, plus the hidden actions shown above; and three question marks will provide more detailed help, including a list of possible answers, if appropriate.

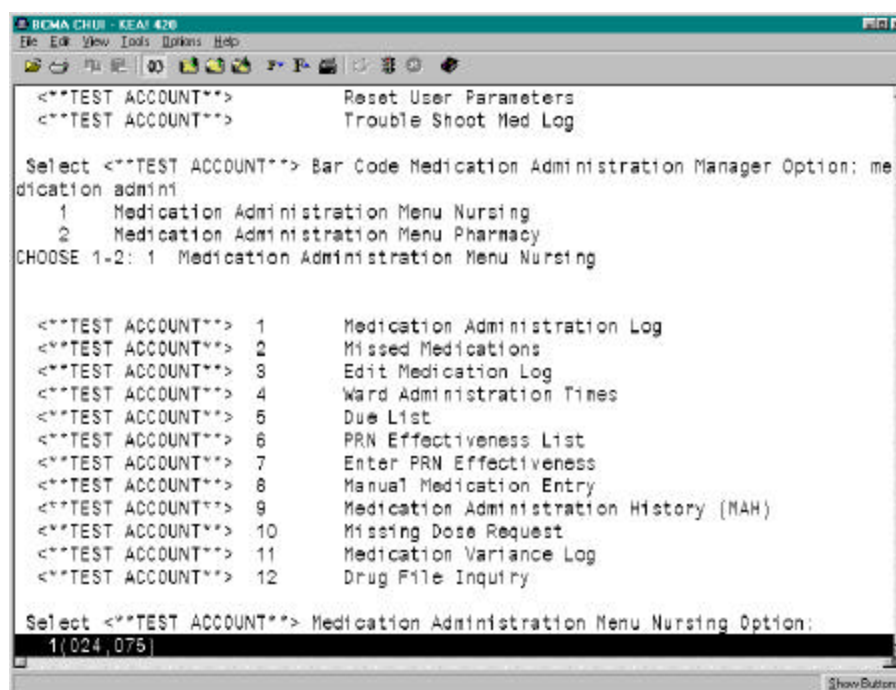
3 BCMA MENU—NURSING OPTION

3.1 Using the Medication Administration Menu Nursing Option

The Bar Code Med Admin (BCMA) Nursing Option Menu allows Nursing personnel to access information that has been entered via the graphical user interface (GUI) Virtual Due List (VDL). Because BCMA operates in real time, scanned information is available as soon as the scan is successfully completed. The Nursing menu as shown in Exhibit 1, BCMA Nursing Option Menu, may be accessed from any **VISTA**-enabled terminal within the medical center.

- ☛ Several of these options are available under both the Nursing and Pharmacy menu options. The options that are unique to Nursing include Edit Medication Log, Ward Administration Times, PRN Effectiveness List, Enter PRN Effectiveness, Manual Medication Entry, and Medication Variance Log.

EXHIBIT 1: BCMA NURSING OPTION MENU



To select any of the options, perform the following steps:

1. Move your cursor to the Select Medication Administration Menu Nursing Option field at the bottom of the screen.
2. Enter the number of the desired option.
3. Press **<Enter>** to display the sort screen for the option chosen.

3.2 Using ScreenMan Format to Request a Report

Many of the Nursing options use a common screen to define selection criteria for reports, as illustrated by Exhibit 2, Report Request Using ScreenMan Format. Other options use specific screens. This section explains the screen fields for all reports using the Report Information Sort Screen and gives instructions for entering information. Following this section are sample reports that can be run from each of the Medication Administration Menu Nursing options.

EXHIBIT 2: REPORT REQUEST USING SCREENMAN FORMAT

Request #: NL-19990401-134430 Medication Log

Start Date: MAR 31,1999 At: 0:01a Stop Date: MAR 31,1999 At: 1:00p

Run by Patient or Ward: Patient
 Patient Name: KZTAAR,*TEST*KEITH D
 Ward Location: Sort by Pt or Room-Bed:

Include Comments:
 Include Audits:

Print to DEVICE: T\$NET_B1A13\$PRINTER (1
 Queue To Run At: APR 1,1999@13:44

Instructions: PF1-E Submit PF1-Q Cancel PF1-R Refresh <Ret> Re-Edit:

KZTAAR,*TEST*KEITH D	01-09-58	408029575	NO	NSC VETERAN
----------------------	----------	-----------	----	-------------

Consolidate ALL Appts

COMMAND: Press <PF1>H for help **Insert**

03.76 [VT400.2 - 192.131.62.17 via TELNET] Compose Run Caps Hold

Many of the reports can be sorted and printed in the following ways:

- By patient. The information will display chronologically.
- By ward. The information can be sorted by patient or room/bed, and it will display chronologically within each patient.

1. In the Start Date field, type in the start date of the report, and press **<Enter>**. (The cursor will move to the next field each time **<Enter>** is pressed.)

☛ To display a list of standard date and time formats, enter **?** in any date or time field, and press **<Enter>**.

2. In the first At field, type the start time of the report (in HHMM format), and press **<Enter>**.
3. In the Stop Date field, type in the stop date, and press **<Enter>**.
4. In the second At field, type the stop time (in HHMM format), and press **<Enter>**.
5. In the Run by Patient or Ward field, type **P** for Patient or **W** for Ward, and press **<Enter>**.

- (If the report is being sorted by ward) In the Ward Location field, type in the ward designation, and press <Enter>. In the Sort by Pt or Room-Bed field, type **P** for Patient or **R** for Room, and press <Enter>.
- (If sorting by patient) In the Patient Name field, type the patient's name, and press <Enter>.

☞ To display a list of standard name formats, enter **?** in any Patient Name field, and press <Enter>.

8. In the Include Comments field, enter **Y** for Yes or **N** for No, and press <Enter>.

☞ If a Yes/No field is blank, just press <Enter> to respond No.

9. In the Include Audits field, enter **Y** for Yes or **N** for No, and press <Enter>.

10. In the Print to Device field, type in a valid printer, and press <Enter>.

11. In the Queue to Run At field, press <Enter> to accept the date displayed, or enter a date and time and, press <Enter>. The report will print at the time and date entered.

12. At the <RET> Re-Edit prompt, press **PF1** (or Num Lock) followed by **E** to submit this report for printing. Other available actions at this prompt are **PF1-Q** to Quit or **PF1-R** to Refresh the screen.

☞ Depending on how the user's facility is configured, either the PF1 key or Num Lock will be active. For consistency, this manual refers to the PF1 convention, but users are advised that PF1 is the same as Num Lock, if that is the active function at their sites.

13. The screen will now clear and the following message will appear: Submitting your report request to Taskman... Submitted! Your Task Number is: ###.

3.3 Medication Administration Log

The Medication Administration Log displays detailed administration information. The report can be sorted and printed by patient or ward, and the user can specify the date and time range that the report covers.

See Section 3.2, Using ScreenMan Format to Request a Report, for instructions on requesting a Med Log Report.

The Medication Administration Log reports will print in a 132-column output. Exhibit 3, Med Log by Patient Report, and Exhibit 4, Med Log by Ward Report, show examples of both Medication Administration Log reports.

Throughout this manual, the reports shown are provided for illustrative purposes only. Actual reports may be longer.

EXHIBIT 3: MED LOG BY PATIENT REPORT

=====						=====	
MEDICATION LOG for Apr 14, 1999@00:01 thru Apr 14, 1999@13:00						Run Date: JUN 10, 1999@09:29	
LOG TYPE: INDIVIDUAL PATIENT						Page: 1	
Patient:	KZTAAR,*TEST*KEITH D	SSN:	408-02-9578	DOB:	JAN 2,1941 (58)		
Sex:	MALE	Ht/Wt:	*/*	Ward:	BCMA Rm A427-02		
Dx:	PNEUMONIA	Last Mvmt:	APR 8,1999@14:07:51	Type:	SPECIALTY TRANSFER		
Reactions: STRAWBERRIES							
=====							
Activity Date	Orderable Item [Dose/Sched/Route/Inj Site]	Admin By	Admin Date/Time	Drug/Solution/Additive	U/Ord	U/Gvn	Unit
04/14/99 09:00	ARTIFICIAL TEARS [2 GTTS 0600-0800-1000-1200-1400-1600-18 00-2000-2200 OPH]	N2	04/14/99 14:00	ARTIFICIAL TEARS /ML	1.00	1.00	2 DROPS
	Comments: 04/14/99 14:00 N2 I DIDN'T GIVE IT						
	04/14/99 14:03 N2 I GAVE IT TWICE						
04/14/99 09:04	CEFTAZIDIME [INFUSE OVER 30 MIN. Q12H IV Inj Site: Arm, Left Upper]	N2	04/14/99 09:04	CEFTAZIDIME - 1 GM DEXTROSE 5%/WATER - 50 ML			
	Comments: <No Comments>						
04/14/99 09:08	ASCORBIC ACID [500MG MO-WE-FR@0900-1700 PO]	N2	04/14/99 09:08	ASCORBIC ACID 500MG TAB	1.00	2.00	CAP
	Comments: 04/14/99 14:06 N2 NEW ORDER TO DOUBLE THE DOSE TODAY						
04/14/99 09:55	MULTIVITAMINS [1TABLET QD PO]	N2	04/14/99 09:57	MULTIVITAMIN TAB	1.00	1.00	TAB
	Comments: 04/14/99 09:55 N2 Patient Refused						
	04/14/99 09:57 N2 Patient Refused						
	04/14/99 14:04 N2 THIS ISN'T WORKING???						
04/14/99 09:59	IPRATROPIUM [2 PUFFS Q6H INHL]	N2	04/14/99 09:59	IPRATROPIUM BROMIDE INHALER	1.00	1.00	2 PUFFS
	Comments: 04/14/99 09:59 N2 PT GOING TO X-RAY						
04/14/99 09:59	POTASSIUM CHLORIDE [75 ml/hr IV Inj Site: Arm, Right Upper]	N2	04/14/99 09:59	POTASSIUM CHLORIDE - 20 MEQ DEXTROSE 5%/WATER - 1000 ML			
	Comments: <No Comments>						
=====							
KZTAAR,*TEST*KEITH D			408-02-9578		Ward: BCMA Room-Bed: A427-02		

EXHIBIT 4: MED LOG BY WARD REPORT

```

=====
Continuing/PRN/Stat/One Time Medication/Treatment Record (Detailed Log) (VAF 10-2970 B, C, D)
Run Date: JUL 26, 1999@10:23
LOG TYPE: WARD
Page: 1

Ward Location: BCMA Division: TOPEKA, KS
=====
Activity Date      Orderable Item      Admin Admin      Drug/Solution/Additive      U/Ord  U/Gvn Unit
                [Dose/Sched/Route/Inj Site]  By   Date/Time
-----
ARIZONA,BCPATIENT (509680003)
Ward: BCMA Rm-Bed: 401-09
-----
04/14/99 09:04  CEFTAZIDIME [INFUSE OVER 30
                MIN. Q12H IV Inj Site: Arm,
                Left Upper]      N3     04/14/99 09:04  CEFTAZIDIME - 1 GM
                                DEXTROSE 5%/WATER - 50 ML
-----
04/14/99 09:05  POTASSIUM CHLORIDE [75 ml/hr
                IV Inj Site: Arm, Left Upper]  N3     04/14/99 09:05  POTASSIUM CHLORIDE - 20 MEQ
                                DEXTROSE 5%/WATER - 1000 ML
-----
04/14/99 14:48  MOISTURIZING LOTION [ PRN TOP]      N3     04/14/99 14:48  DRY SKIN LOTION/ML      1.00    0.00
                PRN Reason: C/O ITCHING
                PRN Effectiveness: NO RELIEF
                Entered By: STUDENT,NURSE THREE Date/Time: APR 14, 1999@14:49:39 Minutes: 1
-----
04/14/99 14:57  ACETAMINOPHEN [325-650MG Q4H      N3     04/14/99 12:00  ACETAMINOPHEN 325MG TAB      2.00    3.00 TAB
                PRN PO]
                PRN Reason: C/O H/A
                PRN Effectiveness: RELEIF
                Entered By: STUDENT,NURSE THREE Date/Time: APR 14, 1999@14:59:01 Minutes: 179
-----
ARKANSAS,BCPATIENT (509680004)
Ward: BCMA Rm-Bed: A415-01
-----
04/14/99 09:00  ARTIFICIAL TEARS [2 DROPS
                0600-0800-1000-1200-1400-1600-18
                00-2000-2200 OPH]      N4     04/14/99 09:00  ARTIFICIAL TEARS /ML      1.00    1.00 2 DROPS
-----
04/14/99 09:04  CEFTAZIDIME [INFUSE OVER 30
                MIN. Q12H IV Inj Site: Arm,
                Right Upper]      N4     04/14/99 09:04  CEFTAZIDIME - 1 GM
                                DEXTROSE 5%/WATER - 50 ML
-----
04/14/99 09:06  ASCORBIC ACID [500MG
                MO-WE-FR@0900-1700 PO]      N4     04/14/99 09:06  ASCORBIC ACID 500MG TAB      1.00    1.00 TAB
-----

```

3.4 Missed Medications

Medications that were not scanned as administered during an administration time window appear on the Missed Medications report. The report includes missed medication, dosage, and scheduled time. The report can be sorted and printed by ward or patient, and the user can specify the date and time that the report covers.

Information that may appear on this report includes medications that were scheduled to be administered, but were not marked as Given, Held, or Refused. Medications placed on Hold via CPRS or Inpatient Medications V.5.0 will appear on this report with Hold in parentheses.

The missed med by ward report should be run after each scheduled admin time. All entries appearing on this report should be resolved.

See Section 3.2, Using ScreenMan Format to Request a Report, for instructions on requesting a Missed Medications Report.

The reports will print in a 132-column output. Exhibit 5, Missed Medications by Patient Report, and Exhibit 6, Missed Medications by Ward Report, show examples of both Missed Medications reports.

EXHIBIT 5: MISSED MEDICATIONS BY PATIENT REPORT

=====			
MISSED MEDICATIONS from Mar 31, 1999@09:00 thru Mar 31, 1999@13:00			
Run Date: MAR 31, 1999@13:19			
Page: 1			
Patient:	KZTAAR,*TEST*KEITH D	SSN:	408-02-9575
Sex:	MALE	Ht/Wt:	182cm/80kg
Dx:	IDDM	Last Mvmt:	NOV 3,1998@09:28:57
		DOB:	JAN 9,1958 (41)
		Ward:	MICU-T Rm 401-01
		Type:	SPECIALTY TRANSFER
Reactions: NKDA, EGGS, STRAWBERRIES			
=====			
Administration Date/Time		Medication	

Mar 31, 1999@09:00		ALBUTEROL INHALANT	
Mar 31, 1999@09:00		BENZTROPINE TAB	
Mar 31, 1999@09:00		CLOTRIMAZOLE CREAM,TOP	
Mar 31, 1999@09:00		MULTIVITAMINS TAB	
Mar 31, 1999@12:00		POLYVINYL ALCOHOL SOLN,OPH	
Mar 31, 1999@13:00		ALBUTEROL INHALANT	
Mar 31, 1999@13:00		AMOXICILLIN CAP,ORAL	
Mar 31, 1999@13:00		CLOTRIMAZOLE CREAM,TOP	
Mar 31, 1999@13:00		WARFARIN TAB	
=====			
KZTAAR,*TEST*KEITH D		408-02-9575	
401-01		Ward: MICU-T Room-Bed:	

EXHIBIT 6: MISSED MEDICATIONS BY WARD REPORT

MISSED MEDICATIONS from Mar 31, 1999@09:00 thru Mar 31, 1999@13:00			
Run Date: MAR 31, 1999@14:08			
Page: 1			
Ward Location: 3-1CP			
Division: TOPEKA, KS			
Ward Rm-Bed	Patient	Administration Date/Time	Medication
3-1CP-T 31C-31	COSMO,RANDY B (1111)	Mar 31, 1999@09:00	ACETAMINOPHEN TAB
3-1CP-T 31C-31	COSMO,RANDY B (1111)	Mar 31, 1999@09:00	THIORIDAZINE TAB
3-1CP-T 31C-31	COSMO,RANDY B (1111)	Mar 31, 1999@09:00	WARFARIN TAB
3-1CP-T 31C-31	COSMO,RANDY B (1111)	Mar 31, 1999@13:00	ACETAMINOPHEN TAB
3-1CP-T 31C-31	COSMO,RANDY B (1111)	Mar 31, 1999@13:00	DILTIAZEM TAB
3-1CP-T 31C-31	COSMO,RANDY B (1111)	Mar 31, 1999@13:00	THIORIDAZINE TAB
3-1CP-T 31C-44	HTTELMA,*TEST*LUTHER ELISHA (1286)	Mar 31, 1999@09:00	ASPIRIN TAB,EC
3-1CP-T 31C-44	HTTELMA,*TEST*LUTHER ELISHA (1286)	Mar 31, 1999@13:00	ASPIRIN TAB,EC
3-1CP-T 31C-45	TRENRU,*TEST*VEODA M (6931)	Mar 31, 1999@09:00	DOCUSATE CAP,ORAL

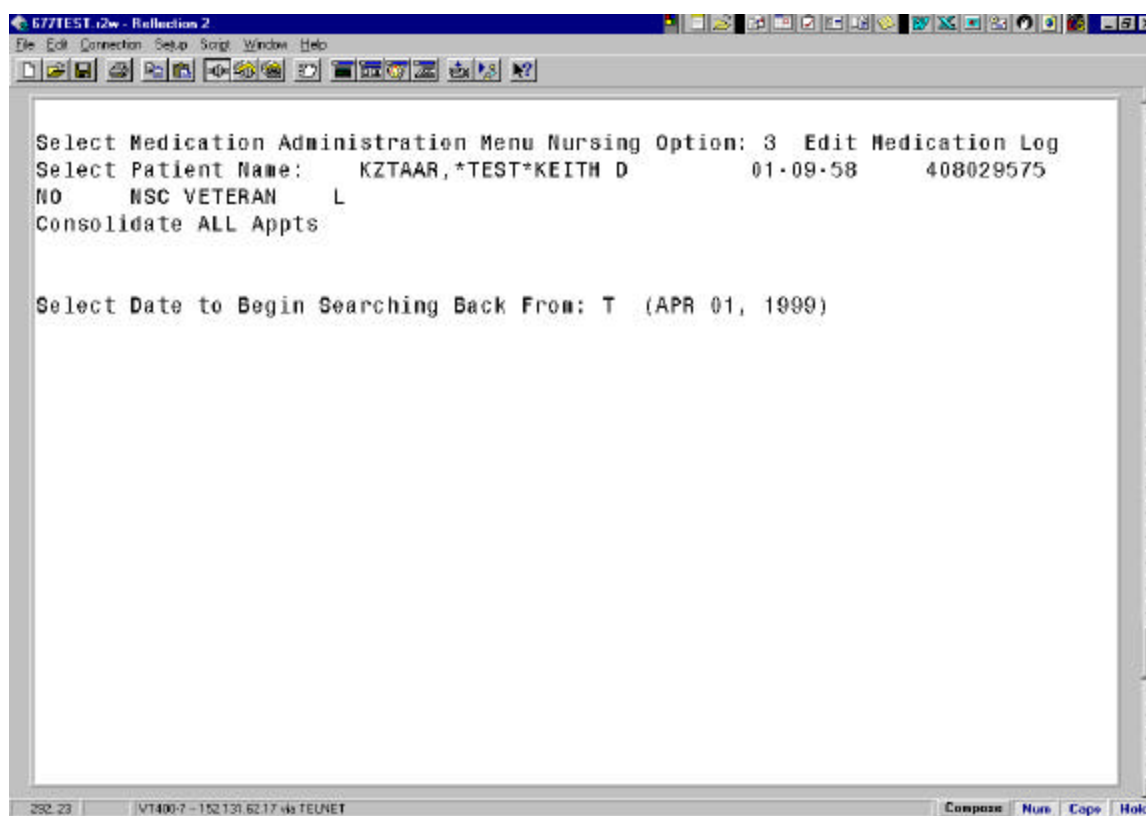
3.5 Edit Medication Log

The Edit Medication Log allows users to edit specific medication entries that have been created through the scanning processes. Orders can be edited only by the users who administered them. There is an override feature for users with the PSB Manager security key. This allows the key holder to edit any user's medication entry. All edits are audited and appear on the Medication Administration Log report. (See Section 3.3, Medication Administration Log for an example of the report.)

To edit a previously administered medication, perform the following steps:

1. On the screen illustrated in Exhibit 7, Edit Medication Log Screen, enter the patient's name or Social Security Number in the Select Patient Name field, and press **<Enter>**.

EXHIBIT 7: EDIT MEDICATION LOG SCREEN



2. In the Select Date to Begin Searching Back From field, type the desired date, and press **<Enter>**. If a medication was not administered today, a screen message will appear asking if the user would like to move back one day. Press **<Enter>** to move back. This process will continue until the system reaches a date on which medications were administered. At that time, the list of medications will appear, as shown in Exhibit 8, Medication Selection Screen.

EXHIBIT 8: MEDICATION SELECTION SCREEN

Searching Date APR 01, 1999

#	Medication	St	D/T Given	Int
1.	INSULIN	G	APR 01, 1999@12:44:30	CLT
2.	HALOPERIDOL	G	APR 01, 1999@12:43:15	CLT
3.	ALUMINUM HYDROXIDE/MG HYDROXIDE/SINETH	G	APR 01, 1999@11:34:19	CLT
4.	ACETAMINOPHEN	G	APR 01, 1999@11:32:25	CLT

Enter a number (1-4): 2

☛ The screen will display only the medications administered by the user accessing this option. Entries made by other users will not display unless the user holds the PSB Manager security key.

The Medication Selection screen displays the following information:

- The St column displays administration status—G for Given, R for Refused, or H for Held.
 - The D/T Given column displays the administration date/time.
 - The Int column displays the initials of the individual who administered the medication.
4. In the Enter a number (1-4) field, type the number of the medication that to be edited, and press <Enter>.

The screen illustrated by Exhibit 9, Administration Edit Screen, will display for the user to change information associated with this order.

EXHIBIT 9: ADMINISTRATION EDIT SCREEN

The screenshot shows a Telnet window titled "677TEST.r2w - Reflection 2". The main window is titled "Medication Log Edit". It contains the following text:

Patient: KZTAAR,*TEST*KEITH D SSN: 408029575
Medication: PROCAINAMIDE

Admin Status: GIVEN Admin Date/Time: MAR 31,1999@10:18:18
Injection Site:

PRN Reason:
PRN Effectiveness:

Dispense Drugs...

Comment (Required):
PATIENT BECAME DIS-RHYTHMIC 2 HOURS AFTER RECEIVING THIS DOSE

Exit Save Refresh

Enter a command or '^' followed by a caption to jump to a specific field.

COMMAND: E Press <PF1>H for help Insert

At the bottom of the window, it says "895.11" and "V1400-7-152.131.62.12 via TELNET".

5. In the Admin Status field, change the status if necessary (Valid entries are G for Given, H for Held, and R for Refused.), and press **<Enter>**.
6. In the Admin Date/Time field, enter the date and time of the actual activity associated with this medication administration event, and press **<Enter>**.
7. In the Injection Site field, enter an injection site (up to 30 characters) or edit an existing entry, and press **<Enter>**.
8. In the PRN Reason field, enter the reason a PRN was administered (up to 30 characters), and press **<Enter>**.

👉 A reason can be entered regardless of medication schedule type. The medication schedule type does not have to be PRN.

9. In the PRN Effectiveness field, enter the effectiveness of a PRN medication or edit the existing entry, and press **<Enter>**.

10. In the Dispense Drugs field, press **<Enter>**. A Dispense Drugs box will display the Dispense Drug(s) associated with this order and the number of units ordered, as shown in Exhibit 10, Dispense Drugs Selection Box.

EXHIBIT 10: DISPENSE DRUGS SELECTION BOX

BCMA CHUI - KEA 420

File Edit View Tools Options Help

Medication Log Edit

Patient: COSMO, RANDY B SSN: 333221111

Med- Dispense Drugs

Adm	Drug Name	Units Order	Units Given	Units
Inj	ASPIRIN 325MG E.C. TAB	1	1	TAB, EC

PRN

PRN

Dis

Com

COMMAND: 1(008,007) Press <PF1>H for help Insert

Show Buttons

- Change the dispense drug if desired, and press **<Enter>**.
 - A field for Units Given will display. Enter a number between 0 and 999 (up to two decimal digits) and press **<Enter>**.
 - The Units field will display. This is a free-text field used to enter the units. Type in whatever form is being dispensed, such as tab, capsule, liquid, and so on.
 - After the Dispense Drugs information is complete, press **<Enter>** twice.
 - At the COMMAND: Close prompt, press **<Enter>** again.
11. In the Comment (Required) field, type a free-text comment, and press **<Enter>**.
12. In the Command field, type **S** for Save, **E** for Exit, or **R** for Refresh, and press **<Enter>**.
- 🖱 If **E** is selected, and the data have not been saved, the system will display the following message: Save changes before leaving form (Y/N)?. If the user enters **N**, the data will not be saved. If the user enters **Y**, the changes will be saved.
13. The screen will display the following message: Enter RETURN to continue or '^' to exit.
- To edit another medication entry, press **<Enter>** twice.
 - To return to the main options screen, enter **^**, and press **<Enter>**.

- ☛ When a medication is marked as Held or Refused and the Med Log is edited using the CHUI menu, the Dispense Drug will not appear as the default in the Dispense Drug field; instead, the Dispense Drug field will be blank. When entering the drug name, the user must choose the Dispense Drug from a list. This feature allows users to dispense ward stock and properly document what medication was actually given to complete a med pass. This functionality may be used when the unit dose medications were not available. If the medication that was marked as H (for Held) or R (for Refused) is later administered via the GUI, Dispense Drugs will display in the Dispense Drug field when the Med Log is edited.
- ☛ When using the CHUI option to change the status of a medication to Given, it is the sole responsibility of the user to ensure that the medications are documented correctly, because no scanning has occurred to validate the medication.

3.6 Ward Administration Times

The Ward Administration Times report lists current times and medications due depending on the sort criteria established by the user. The report can be sorted and printed in the following ways:

- By patient. Each medication a patient is due at each administration time is listed.
- By ward. The total number of medications due at each administration time is listed for each patient and totaled for the entire ward. This report also shows hourly totals for the ward.

☛ The ward report can be used to help determine workloads on a ward.

See Section 3.2, Using ScreenMan Format to Request a Report, for instructions on requesting a Ward Administration Times report.

The printed report is formatted as shown in Exhibit 11, Administration Times by Patient Report, and Exhibit 12, Administration Times by Ward Report.

EXHIBIT 11: ADMINISTRATION TIMES BY PATIENT REPORT

=====				=====	
PATIENT ADMINISTRATION TIMES				Run Date: JUL 26, 1999@14:32	
ADMINISTRATION DATE: JUL 26, 1999				Page: 1	
Patient:	KZTAAR,*TEST*KEITH D	SSN:	408-02-9578	DOB:	JAN 2,1941 (58)
Sex:	MALE	Ht/Wt:	*/*	Ward:	BCMA Rm A427-02
Dx:	PNEUMONIA	Last Mvmt:	APR 8,1999@14:07:51	Type:	SPECIALTY TRANSFER
Reactions: STRAWBERRIES					
=====					
Time	Medication	Dose/Route			

1:00a	ALBUTEROL SOLN,INHL	Dosage: 3MML Route: INHL			
5:00a	ALBUTEROL SOLN,INHL	Dosage: 3MML Route: INHL			
5:00a	PROCHLORPERAZINE TAB	Dosage: 10MG Route: PO			
6:00a	ARTIFICIAL TEARS SOLN,OPH	Dosage: 2 DROPS Route: OPH			
8:00a	ARTIFICIAL TEARS SOLN,OPH	Dosage: 2 DROPS Route: OPH			
9:00a	ALBUTEROL SOLN,INHL	Dosage: 3MML Route: INHL			
9:00a	HALOPERIDOL DECANOATE INJ	Dosage: 50MG Route: IM			
9:00a	MULTIVITAMINS TAB	Dosage: 1 TABLET Route: PO			
10:00a	ARTIFICIAL TEARS SOLN,OPH	Dosage: 2 DROPS Route: OPH			
11:00a	IPRATROPIUM AEROSOL	Dosage: 2 PUFFS Route: INHL			
11:00a	PROCHLORPERAZINE TAB	Dosage: 10MG Route: PO			
12:00n	ARTIFICIAL TEARS SOLN,OPH	Dosage: 2 DROPS Route: OPH			
1:00p	ALBUTEROL SOLN,INHL	Dosage: 3MML Route: INHL			
1:00p	WARFARIN TAB	Dosage: 5MG Route: PO			
2:00p	ARTIFICIAL TEARS SOLN,OPH	Dosage: 2 DROPS Route: OPH			
4:00p	ARTIFICIAL TEARS SOLN,OPH	Dosage: 2 DROPS Route: OPH			
5:00p	ALBUTEROL SOLN,INHL	Dosage: 3MML Route: INHL			
5:00p	PROCHLORPERAZINE TAB	Dosage: 10MG Route: PO			
6:00p	ARTIFICIAL TEARS SOLN,OPH	Dosage: 2 DROPS Route: OPH			
8:00p	ARTIFICIAL TEARS SOLN,OPH	Dosage: 2 DROPS Route: OPH			
9:00p	CLOTRIMAZOLE CREAM,TOP	Dosage: Route: TOP			
9:00p	PHENYTOIN CAP,SA	Dosage: 300MG Route: PO			
10:00p	ARTIFICIAL TEARS SOLN,OPH	Dosage: 2 DROPS Route: OPH			
11:00p	PROCAINAMIDE CAP,ORAL	Dosage: 250MG Route: PO			
11:00p	PROCHLORPERAZINE TAB	Dosage: 10MG Route: PO			
=====					
KZTAAR,*TEST*KEITH D		408-02-9578		Ward: BCMA Room-Bed: A427-02	

EXHIBIT 12: ADMINISTRATION TIMES BY WARD REPORT

=====																								
WARD ADMINISTRATION TIMES												Run Date: JUL 26, 1999@14:35												
ADMINISTRATION DATE: JUL 26, 1999												Page: 2												
Ward Location: BCMA												Division: TOPEKA, KS												
=====																								
Patient Name												Administration Times												
Room-Bed	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

LOUISIANA,BCPATIENT																								
SSN: 509680018																								
Room-Bed: BCMA 310-01																								

MAINE,BCPATIENT																								
SSN: 509680019																								
Room-Bed: BCMA 309-02																								

MARYLAND,BCPATIENT																								
SSN: 509680020																								
Room-Bed: BCMA 308-03																								

=====																								
Hourly Totals:	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	5		3		15	5	2	5	24	5	12	5	19	6	6	5	21	5	2	5	16	5	11	

Ward Total:	182																							

3.7 Due List

The Medication Due List displays the information on the VDL available in the GUI Menu. The report can be printed for specified date/time ranges and by patient or ward. Within patient or ward, the report may include or exclude the following:

- Continuous, PRN, On-Call, and One-time Schedule Types
- Unit-Dose or IV Route medications
- Addendums

To enter information for the report, perform the following steps to enter information on the screen illustrated in Exhibit 13, Due List Report Request Screen.

EXHIBIT 13: DUE LIST REPORT REQUEST SCREEN

BCMA CHUI - KEA! 420

File Edit View Tools Options Help

Request #: DL-19990718-141257 Due List

Start Date: [REDACTED] At: Stop Date: At:

Run by Patient or Ward:

Patient Name:

Ward Location: Sort by Pt or Room-Bed:

Include Schedule - Continuous: Yes Include Order Types - IV: Yes
 PRN: Yes Unit Dose: Yes
 On Call: Yes
 One-Time: Yes Include Addendums: No

Print to DEVICE: BCAUX(VT320)
 Queue To Run At: JUL 18,1999@14:12

Instructions: PF1-E Submit PF1-Q Cancel PF1-R Refresh <Ret> Re-Edit:

COMMAND: Press <PF1>H for help Insert

1(004,014)

Show Buttons

1. In the Start Date field, type the date, and press **<Enter>**.
2. In the first At field, type the time, and press **<Enter>**.
3. In the Stop Date field, type a date, and press **<Enter>**.
4. In the second At field, type a time, and press **<Enter>**.
5. In the Run by Patient or Ward field, type **P** for Patient or **W** for Ward, and press **<Enter>**.
 - (If the report is being sorted by patient) In the Patient Name field, type the patient's name, and press **<Enter>**.

- (If the report is being sorted by ward) In the Ward Location, type in the ward designation, and press <Enter>. In the Sort by Pt or Room-Bed field, type in **P** for Patient or **R** for Room/bed name, and press <Enter>.
- 6. In the Include Schedule fields, type **Y** for the desired schedule type(s) and **N** for the others and, press <Enter>.
- 7. In the Include Order Types, type **Y** or **N** in the IV field and Unit Dose field and press <Enter>. If the user enters **No** in both fields, no orders will print on the report.
- 8. In the Include Addendums field, type **Y** or **N**, and press <Enter>. When **Y** is entered, an additional section called Changes/Addendums to Orders will print at the bottom of the report. This user can use this section to manually record information about a medication administration.
- 9. In the Print to Device field, type the desired printer, and press <Enter>.
- 10. In the <Ret> Re-Edit field, press the **PF1** followed by **E** (Exit) to submit the request for printing. (Other available actions in this field are **PF1 - Q** to Quit this option or **PF1 - R** to Refresh the screen.)
- 11. The screen will now clear and the following message will appear: Submitting your report request to Taskman... Submitted! Your Task Number is:####.

The reports will print in a 132-column output. Exhibit 14, Due List by Patient Report, and Exhibit 15, Due List by Ward Report, show examples of both Due List reports.

EXHIBIT 14: DUE LIST BY PATIENT REPORT

```

=====
MEDICATION DUE LIST for JUL 26, 1999 0800-1000                                Run Date: JUL 26, 1999@14:39
Order Type(s): IV & Unit Dose -- Continuous                                     Page: 1

Patient: KZTAAR,*TEST*KEITH D          SSN: 408-02-9578          DOB: JAN 2,1941 (58)
Sex: MALE                               Ht/Wt: */*              Ward: BCMA Rm A427-02
Dx: PNEUMONIA                          Last Mvmt: APR 8,1999@14:07:51    Type: SPECIALTY TRANSFER

Reactions: STRAWBERRIES
=====
Self
Med  Sched  Medication                                Dose                                Last      Start   Stop    Verifying
Given    Date    Date    Rph/Rn
-----
UD-C    ALBUTEROL SOLN,INHL
        *ALBUTEROL 0.083% INHL SOLUTION
        3ML EA. (7014)
        Spec Inst: <None Entered>          Give: 3MML Q4H
                                           Admin Times: 0900          06/03/99@0904 07/05/99 08/04/99 RAC/RAC
-----
UD-C    ARTIFICIAL TEARS SOLN,OPH
        *ARTIFICIAL TEARS /ML (7021)
        Spec Inst: WHILE AWAKE            Give: 2 DROPS
                                           0600-0800-1000-1200-1400-1600-1800-
                                           2000-2200
                                           Admin Times: 0800-1000    06/09/99@1609 07/05/99 08/04/99 RAC/RAC
-----
Changes/Addendums to orders
-----
CON ____ PRN ____ Drug: _____ Give: _____ Start: _____ Stop: _____
OT ____ OC ____  Spec _____
                  Inst: _____ Initials: _____ Date: _____
-----
CON ____ PRN ____ Drug: _____ Give: _____ Start: _____ Stop: _____
OT ____ OC ____  Spec _____
                  Inst: _____ Initials: _____ Date: _____
=====
KZTAAR,*TEST*KEITH D                                408-02-9578                                Ward: BCMA Room-Bed: A427-02

```

The Due List by Ward report prints one patient per page.

EXHIBIT 15: DUE LIST BY WARD REPORT

```

=====
MEDICATION DUE LIST for JUL 26, 1999 0800-1000                                Run Date: JUL 26, 1999@14:43
Order Type(s): IV & Unit Dose -- Continuous                                     Page: 1

Patient: CONNECTICUT,BCPATIENT      SSN: 509-68-0007      DOB: DEC 3,1958 (40)
Sex: MALE                           Ht/Wt: */*          Ward: BCMA Rm A427-03
Dx: CHEST PAIN                      Last Mvmt: APR 8,1999@14:14:45  Type: SPECIALTY TRANSFER

Reactions: STRAWBERRIES
=====
Self Med  Sched  Medication                                Dose                                Last Given      Start Date      Stop Date      Verifying
                                           Rph/Rn
-----
UD-C      ARTIFICIAL TEARS SOLN,OPH
           *ARTIFICIAL TEARS /ML (7021)
           Spec Inst: WHILE AWAKE
                                           Give: 2 DROPS
                                           0600-0800-1000-1200-1400-1600-1800-
                                           2000-2200
                                           Admin Times: 0800-1000
                                           07/23/99@0824  07/12/99  08/11/99  KB/***

UD-C      CLOTRIMAZOLE CREAM, TOP
           *CLOTRIMAZOLE 1% CREAM /GM (7071)
           Spec Inst: SMALL AMOUNT TOPICALLY
           TO AREA
                                           Give: QID
                                           Admin Times: 0900
                                           07/21/99@1601  07/12/99  08/11/99  KB/***

UD-C      MULTIVITAMINS TAB
           *MULTIVITAMIN TAB (5512)
           Spec Inst: <None Entered>
                                           Give: 20meg QOD
                                           Admin Times: 0900
                                           07/26/99@0842  07/26/99  08/25/99  KB/***

=====
Changes/Addendums to orders
=====
CON ___ PRN ___ Drug: _____ Give: _____ Start: _____ Stop: _____
                Spec _____
OT  ___ OC  ___ Inst: _____ Initials: _____ Date: _____

CON ___ PRN ___ Drug: _____ Give: _____ Start: _____ Stop: _____
                Spec _____
OT  ___ OC  ___ Inst: _____ Initials: _____ Date: _____

=====
CONNECTICUT,BCPATIENT                                509-68-0007                                Ward: BCMA Room-Bed: A427-03

```

3.8 PRN Effectiveness List

The PRN Effectiveness List shows administered PRN medications that require an effectiveness comment. After making an entry using the menu option Enter PRN Effectiveness, and selecting one of the medications listed on the following report, the effectiveness will be filed. That entry will no longer display on the report PRN Effectiveness List the next time it is printed.

This report may be printed by nursing ward location or patient.

See Section 3.2, Using ScreenMan Format to Request a Report, for instructions on requesting a PRN Effectiveness List.

The printed reports are formatted as shown in Exhibit 16, PRN Effectiveness List by Patient and Exhibit 17, PRN Effectiveness List by Ward.

EXHIBIT 16: PRN EFFECTIVENESS LIST BY PATIENT

=====				Run Date: JUL 26, 1999@14:50
PRN EFFECTIVENESS LIST from Apr 01, 1999@00:05 thru Jul 26, 1999@08:00				Page: 1
Patient:	COSMO,RANDY B	SSN:	333-22-1111	DOB: JAN 16,1924 (75)
Sex:	MALE	Ht/Wt:	170cm/82kg	Ward: 1-4CM-T Rm C417-01
Dx:	COPD	Last Mvmt:	APR 3,1999@14:49:21	Type: DISCHARGE
Reactions: CODEINE				
=====				
Administration Date/Time		Medication	Administered By	

MAY 18, 1999@07:46:30 PRN Reason: Anxiety		LORAZEPAM	TUCKER,CHRIS	
MAY 18, 1999@08:43:03 PRN Reason: Constipation		MAGNESIUM HYDROXIDE	TUCKER,CHRIS	
MAY 18, 1999@08:48:42 PRN Reason: Anxiety		LORAZEPAM	TUCKER,CHRIS	
MAY 18, 1999@09:29:14 PRN Reason: Pain		ACETAMINOPHEN	TUCKER,CHRIS	
MAY 18, 1999@09:39:52 PRN Reason: Constipation		MAGNESIUM HYDROXIDE	TUCKER,CHRIS	
MAY 19, 1999@15:34:02 PRN Reason: Anxiety		LORAZEPAM	PETIT,DAN R	
JUL 09, 1999@11:06:14 PRN Reason: Discomfort		ACETAMINOPHEN	PETIT,DAN R	
=====				
COSMO,RANDY B		333-22-1111	Ward: 1-4CM-T Room-Bed: C417-01	

EXHIBIT 17: PRN EFFECTIVENESS LIST BY WARD

```

=====
PRN EFFECTIVENESS LIST  from Apr 01, 1999@08:00 thru Jul 26, 1999@05:00                      Run Date: JUL 26, 1999@14:52
                                                                    Page: 3

Ward Location: BCMA                                                                    Division: TOPEKA, KS
=====
Patient      Administration Date/Time      Ward Rm-Bed      Medication      Administered By
-----
  APR 14, 1999@15:32:40      ACETAMINOPHEN      STUDENT,NURSE TWELVE
    PRN Reason: pain

ILLINOIS,BCPATIENT      BCMA  C517-01

  APR 13, 1999@10:48:08      ACETAMINOPHEN      STUDENT,NURSE THIRTEEN
    PRN Reason: Fever

  APR 14, 1999@15:32:43      HALOPERIDOL      STUDENT,NURSE THIRTEEN
    PRN Reason: Agitation

INDIANA,BCPATIENT      BCMA  C521-01

  APR 13, 1999@13:35:17      INSULIN REGULAR (HUMULIN)      STUDENT,NURSE FOURTEEN
    PRN Reason: Elevated Blood Sugar

  APR 14, 1999@12:39:39      INSULIN REGULAR (HUMULIN)      STUDENT,NURSE FOURTEEN
    PRN Reason: BS 400

  APR 14, 1999@14:48:30      INSULIN REGULAR (HUMULIN)      STUDENT,NURSE FOURTEEN
    PRN Reason: INC.BS

IOWA,BCPATIENT      BCMA  C522-01

  APR 13, 1999@10:48:12      ACETAMINOPHEN      STUDENT,NURSE FIFTEEN
    PRN Reason: Fever

  APR 14, 1999@14:49:35      PROCHLORPERAZINE      STUDENT,NURSE FIFTEEN
    PRN Reason: FOR NAUSEA

```


3.9 Enter PRN Effectiveness

This option allows Nursing to enter effectiveness comments concerning PRN medications that were administered.

To enter PRN Effectiveness comments, perform the following steps:

1. On the BCMA Nursing Option Menu, select option **7**, Enter PRN Effectiveness, and press **<Enter>**. Additional information entry fields will display, as illustrated in Exhibit 18, Patient Selection Screen.

EXHIBIT 18: PATIENT SELECTION SCREEN

dhcp.r2w - Reflection 2

File Edit Connection Setup Script Window Help

1 Medication Administration Log
2 Missed Medications
3 Edit Medication Log
4 Ward Administration Times
5 Due List
6 PRN Effectiveness List
7 Enter PRN Effectiveness
8 Manual Medication Entry
9 Medication Administration History (MAH)
10 Missing Dose Request
11 Medication Variance Log
12 Drug File Inquiry

Select Medication Administration Menu Nursing Option: 7 Enter PRN Effectiveness

Select Patient Name: cosmo,RANDY B 10-16-30 333221111 NO
NSC VETERAN TOP
Consolidate ALL Appts - TRAVEL PT

Select Date to Begin Searching Back From: Today//

869,50 VT400-7 Compose Num Caps Hold

2. In the Select Patient Name field, type the patient's name, and press **<Enter>**.
3. At the Select Date to Begin Searching Back From field, press **<Enter>** to select today's date.
 - If the medication was not administered today, a screen message will appear asking if the user would like to move back one day. Press **<Enter>** to move back. This process will continue until the system reaches a date on which medications were administered. At that time, the list of medications will appear as shown in Exhibit 19, Medication Selection Screen.

EXHIBIT 19: MEDICATION SELECTION SCREEN

The screenshot shows a Telnet window titled "677TEST i2w - Reflection 2". The main display area contains the following text:

Searching Date APR 01, 1999

#	Medication	St	D/T Given	Int
1.	INSULIN	G	APR 01, 1999@12:44:30	CLT
2.	ALUMINUM HYDROXIDE/HG HYDROXIDE/SINETH	G	APR 01, 1999@11:34:19	CLT

Enter a number (1-2): 1

The window has a menu bar with "File", "Edit", "Connection", "Setup", "Script", "Window", and "Help". The status bar at the bottom shows "1011.2", "VT400-7 - 152.131.62.17 via TELNET", and buttons for "Compose", "Nurs", "Caps", and "Hold".

4. Enter the number corresponding to the medication needing an effectiveness comment, and press **<Enter>**.
5. The effectiveness comments entry screen displays, as shown in Exhibit 20, PRN Effectiveness Entry Screen.

EXHIBIT 20: PRN EFFECTIVENESS ENTRY SCREEN

The screenshot shows a terminal window titled "677TEST.v2w - Reflection 2". The window contains the following text:

```
PRN Effectiveness Entry
-----
Patient: KZTAAR,*TEST*KEITH D
Location: MICU-T 401-01      Division: TOPEKA, KS
Administration Date/Time: APR 1,1999@12:44:30
      Administration By: TUCKER,CHRIS

PRN Reason:
FOR BLOOD SUGAR 325

PRN Effectiveness:
BLOOD SUGAR WAS 375

Exit      Save      Refresh

Enter a command or '^' followed by a caption to jump to a specific field.

COMMAND: E                               Press <PF1>H for help  Insert
```

At the bottom of the window, there is a status bar with the text "1045.11 VT400-7 - 152.131.62.17 via TELNET" and buttons for "Compose", "Num", "Caps", and "Hold".

6. In the PRN Effectiveness field, type a comment up to 78 characters long, and press **<Enter>**.
7. In the Command field, type **S** for Save, **E** to Exit, or **R** for Refresh, and press **<Enter>**.

☞ If the user tries to exit the screen and the data has not been saved, the system will display the following message: Save changes before leaving form (Y/N)?. If the user enters **N**, the data will not be saved. If the user enters **Y**, the changes will be saved.

3.10 Manual Medication Entry

The Manual Medication Entry option allows the user to manually create a medication administration entry for any order.

- ☛ Medication orders will not be electronically validated with this option. However, the Medication Log will include comments and audits for any order that was entered using the Manual Medication Entry option.

To enter information for the report, perform the following steps:

1. In the Select Patient field of the screen illustrated in Exhibit 21, Manual Medication Entry Patient Selection Screen, type the patient's name or SSN, and press <Enter>.

EXHIBIT 21: MANUAL MEDICATION ENTRY PATIENT SELECTION SCREEN

```

Manual Medication Entry

Notice: No validation of medications is done with this option.
Entries in the Med Log created with this option will reflect this
in the comments.

Select PATIENT:  ARIZONA,BCPATIENT      02-05-42      509680003      NO      H
SC VETERAN
Select Orders From Date: Today//  (JUL 23, 1999)
Searching for Orders...

Notice: Order #10 (IV) doesn't have administration
times contact Pharmacy to correct before administering.

Enter RETURN to continue or '^' to exit:
  
```

944, 42 VT400-7 -- 152.131.61.252 via TELNET Compose Num Caps Hold

2. In the Select Orders From Date: Today// field, press <Enter> to select today's date, or enter a date and press <Enter>.
3. At the Enter RETURN to continue or '^' to exit field, press <Enter> to continue with the entry. (To return to the main options menu, enter ^, and press <Enter>.)
4. A list of orders for this patient will display as shown in Exhibit 22, Manual Medication Entry Medication Selection Screen.

EXHIBIT 22: MANUAL MEDICATION ENTRY MEDICATION SELECTION SCREEN

Manual Medication Entry		St
#	Sc Medication	
1. C	ASPIRIN TAB,EC	(A) Start: 07/26/1999 0600 Stop: 08/09/1999 2400 Admin Times: 0900
2. C	CEFEPIME INJ,PWDR	(D) Start: 06/28/1999 1435 Stop: 07/26/1999 1037 Admin Times: 1630
3. C	CEFEPIME INJ,PWDR	(A) Start: 07/26/1999 1037 Stop: 08/09/1999 2400 Admin Times: 0900
4. C	DILTIAZEM (TIAZAC) CAP,SA	(A) Start: 07/26/1999 0700 Stop: 08/09/1999 2400 Admin Times: 0900
5. C	MULTIVITAMINS TAB	(A) Start: 07/26/1999 0700 Stop: 08/09/1999 2400 Admin Times: 0900
6. O	LORAZEPAM TAB	(E) Start: 06/30/1999 0905 Stop: 06/30/1999 0905
7. O	SODIUM BIPHOSPHATE/SODIUM PHOSPHATE ENEMA (E)	Start: 06/30/1999 0905 Stop: 06/30/1999 0905
8. P	HYDROCORTISONE CREAM, TOP	(A) Start: 07/20/1999 0856 Stop: 08/03/1999 2400

Enter a number (1-8):

5. In the Enter a number field, enter the desired medication line number shown in the list. Press **<Enter>**. The screen illustrated in Exhibit 23, Administration Time Selection Screen, will display.

EXHIBIT 23: ADMINISTRATION TIME SELECTION SCREEN

The screenshot shows a terminal window titled "677TEST.i2w - Reflection 2". The menu bar includes "File", "Edit", "Connection", "Setup", "Script", "Window", and "Help". The main display area contains the following text:

```
Order:      118U
Medication: ALBUTEROL INHALANT
Dosage:     3ML
Schedule:   CONTINUOUS
Admin Times: 0100-0500-0900-1300-1700-2100

Is this the correct Order? Yes// y (Yes)

Enter the DATE of Administration: Today// (APR 01, 1999)

Select one of the following:

1      0100
2      0500
3      0900
4      1300
5      1700
6      2100

Select Administration Time: 4 1300

Create an administration for APR 01, 1999@13:00? Yes//
```

The status bar at the bottom shows "1108.56" on the left, "VT400-7-152131.6217 via TELNET" in the center, and "Compose Num Caps Hold" on the right.

4. In the Is this the correct Order? Yes// field press **<Enter>** to accept the order. (If the user enters **No**, the screen reverts to the Manual Medication Entry Medication Selection Screen, shown in Exhibit 22.)
5. In the Enter the Date of Administration field, enter the desired date, and press **<Enter>**.
6. In the Select Administration Time field, enter the number of the desired administration time from the list on the screen. Press **<Enter>**.
7. The administration date and time will display in the Create An Administration field. If the date and time are correct, press **<Enter>**. (If the date and time are not correct, enter **No** in the Create An Administration field. The screen will revert to the Manual Medication Entry Medication Selection Screen, as shown in Exhibit 22.) The manual entry screen displays, as shown in Exhibit 24, Medication Log Manual Entry Screen.

EXHIBIT 24: MEDICATION LOG MANUAL ENTRY SCREEN

Medication Log Manual Entry - Unit Dose Order

Patient: KZTAAR, *TEST*KEITH D SSN: 408029575

Medication: ALBUTEROL

Admin Status: GIVEN Admin Date/Time: APR 1, 1999@15:27:17

Injection Site:

PRN Reason:

PRN Effectiveness:

Dispense Drugs...

Comment (Required):
order was missed earlier

Exit Save Refresh

Enter a command or '^' followed by a caption to jump to a specific field.

COMMAND: e Press <PF1>H for help **Insert**

1038.42 VT4007 - 152.131.62.17 via TELNET

14. In the Admin Status field, type in **G** for Given, **H** for Held, or **R** for Refused, and press **<Enter>**.
15. In the Admin Date/Time field, enter the actual administration date and time, and press **<Enter>**.
16. In the Injection Site field, enter a free-text comment, and press **<Enter>**.
17. In the PRN Reason field, enter a free-text comment, and press **<Enter>**.
18. In the PRN Effectiveness field, enter a free-text comment, and press **<Enter>**.
19. In the Dispense Drugs field, press **<Enter>**. A Dispense Drugs box will display the Dispense Drug(s) associated with this order and the number of units ordered.
 - Change the dispensed drug if desired, and press **<Enter>**.
 - A field for Units Given will display. Enter a number between 0 and 999 (up to two decimal digits) and press **<Enter>**.
 - The Units field will display. This is a free-text field used to enter the units. Type in whatever form is being dispensed, such as tab, capsule, liquid, and so on.
 - After the Dispense Drugs information is complete, press **<Enter>** twice.
 - At the COMMAND: Close prompt, press **<Enter>** again.
20. In the Comment (Required) field, type a free-text comment, and press **<Enter>**.
21. In the Command field, type **S** for Save, **E** for Exit, or **R** for Refresh, and press **<Enter>**.

If **E** is selected, the user will be prompted with the following message: Save changes before leaving form (Y/N)? Type **Y** for Yes to save the changes.

22. The screen will display the following message: Enter RETURN to continue or '^' to exit.

- To create another medication administration entry, press <**Enter**> twice.
- To return to the main options screen, enter ^.

3.11 Medication Administration History (MAH)

The electronic MAH can be printed for a specified date range for a single patient or a ward and shows medications that have been marked as Given, Held, or Refused.

☛ The report prints a 7-day history, running from Sunday to Saturday. For example, if the user enters Start and Stop Dates that fall in the middle of a week, the report will show the medication history from the previous Sunday to the following Saturday.

See Section 3.2, Using ScreenMan Format to Request a Report, for instructions on requesting the MAH.

Exhibit 25, MAH by Patient Report, shows an example of the MAH report.

EXHIBIT 25: MEDICATION ADMINISTRATION HISTORY BY PATIENT REPORT

=====

Continuing/PRN/Stat/One Time Medication/Treatment Record (VAF 10-2970 B, C, D)

Run Date: JUL 26, 1999@10:53

Page: 1

Patient: KZTAAR,*TEST*KEITH D

SSN: 408-02-9578

DOB: JAN 2,1941 (58)

Sex: MALE

Ht/Wt: */*

Ward: BCMA Rm A427-02

Dx: PNEUMONIA

Last Mvmt: APR 8,1999@14:07:51

Type: SPECIALTY TRANSFER

Reactions: STRAWBERRIES

=====

Start Date	Stop Date	Admin Times	04/11/1999	04/12/1999	04/13/1999	04/14/1999	04/15/1999	04/16/1999	04/17/1999
04/14/1999	05/14/1999	24:00	0500			0519 N2	0515 N2		
ACETAMINOPHEN TAB			1100			R1130 N2	H1146 N2		
ACETAMINOPHEN 325MG TAB			1700			1729 N3	1746 N3		
Give: 650MG PO Q6H			2300			2255 N3	2310 N3		
RPH: P2 RN: N2									
04/13/1999	04/23/1999	24:00	0500		1324 N2		1400 N2		
AMOXICILLIN CAP,ORAL			1300						
AMOXICILLIN 250MG CAPS Give:			2100						
250MG PO Q8H									
Spec Inst: FOR 10 DAYS ONLY									
RPH: P2 RN: N2									
04/13/1999	05/13/1999	24:00	0600			0913 N2	1325 N3		
ARTIFICIAL TEARS SOLN,OPH			0800			1400 N2	1330 N2		
ARTIFICIAL TEARS /ML Give: 2			1000				1400 N2		
GTTS OPH			1200				1401 N2		
0600-0800-1000-1200-1400-1600-			1400						
-1800-2000-2200			1600						
Spec Inst: WHILE AWAKE			1800						
RPH: P2 RN: N2			2000						
			2200						

=====

3.12 Missing Dose Request

This option allows the user to submit a Missing Dose Request to Pharmacy using the screen illustrated in Exhibit 26, Missing Dose Request Screen. Once submitted, the request prints on a predefined printer and an electronic MailMan message is sent to the predefined mail group.

EXHIBIT 26: MISSING DOSE REQUEST SCREEN

```

677TEST i2w - Reflection 2
File Edit Connection Setup Script Window Help

Request #: MD-19990401-163917                               Missing Dose Request
-----
Requesting User:  TUCKER, CHRIS                               Division: TOPEKA, KS
Request Date/Time: APR 1, 1999@16:39

Patient Name:  KZTAAR,*TEST*KEITH D
Ward Location: MICU-T

Missing Drug:  ACETAMINOPHEN 325MG TAB
Dosage Needed: 650mg
Reason Needed: DROPPED

Administration Date/Time: APR 1, 1999@16:43
Needed by Date/Time:    APR 1, 1999@17:00

Exit      Save      Refresh

Enter a command or '^' followed by a caption to jump to a specific field.

COMMAND: E [REDACTED]      Press <PF1>H for help      Insert
928.11      VT100-7 - 152131.6217 via TELNET      Compose  Nure  Caps  Hold

```

To enter a Missing Dose Request, perform the following steps:

1. In the Patient Name field, type the patient's name, and press **<Enter>**.
2. In the Ward Location field, type the ward designation, and press **<Enter>**.
3. In the Missing Drug field, type the medication, and press **<Enter>**.

☛ To view a list of appropriate formats for the Missing Drug field, type a **?** in the Missing Drug field and press **<Enter>**. Explanation of the ways to enter a medication will display on the bottom part of the screen.

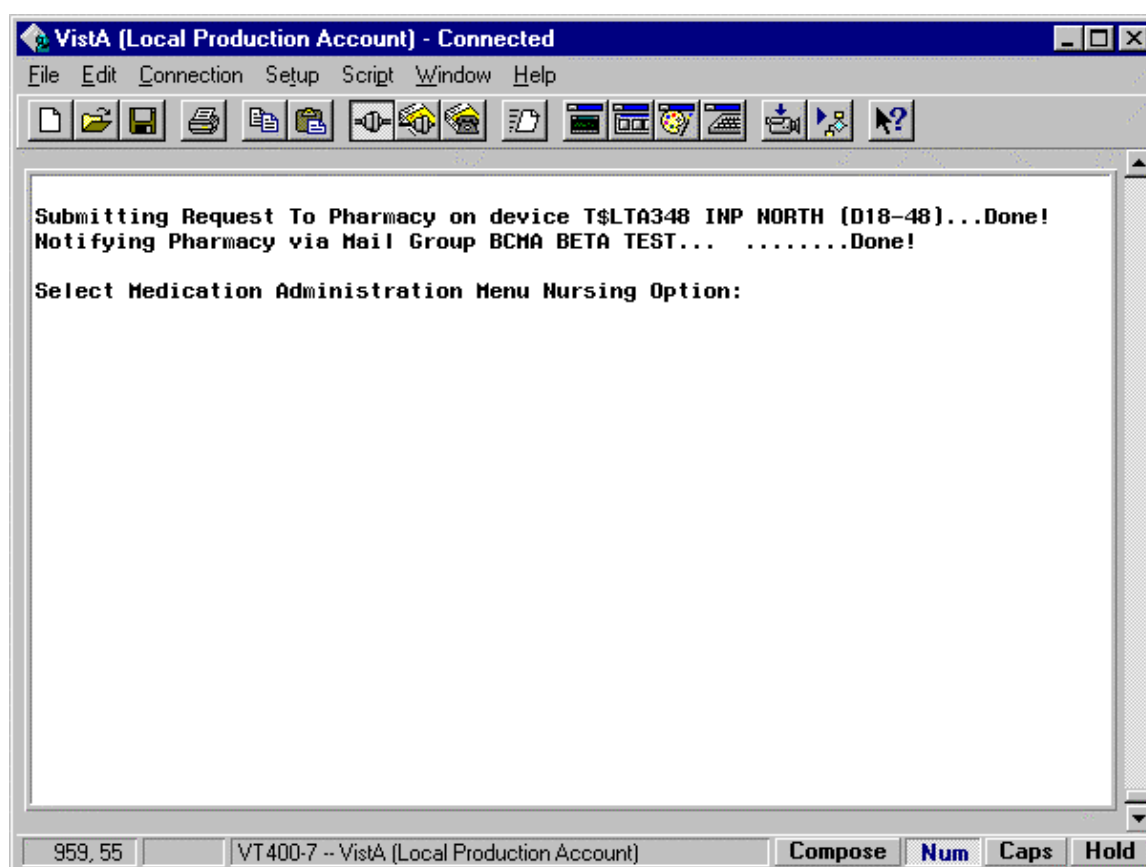
4. In the Dosage Needed field, type the dosage, and press **<Enter>**.
5. In the Reason Needed field, type a reason, and press **<Enter>**.

☛ To view a list of allowable reasons, type **?** in the Reason Needed field, and press **<Enter>**. The list of reasons will display on the bottom part of the screen.

6. In the Administration Date/Time field, type a date and time (in date@time format), and press **<Enter>**.
7. In the Needed by Date/Time: field, type a date and time (in date@time format), and press **<Enter>**.
8. In the COMMAND field, type **S** for Save, **E** for Exit, or **R** for Refresh, and press **<Enter>**.

☛ If the user tries to exit the screen and the data has not been saved, the system will display the following message: Save changes before leaving form (Y/N)?. If the user enters **N**, the data will not be saved. If the user enters **Y**, the changes will be saved. The menu selection screen will display with a message confirming that the request has been submitted to Pharmacy via the appropriate mail group, as shown in Exhibit 27, Missing Dose Request Confirmation Screen.

EXHIBIT 27: MISSING DOSE REQUEST CONFIRMATION SCREEN



The Missing Dose Request will print on the designated printer. The e-mail message that is generated appears as shown in Exhibit 28, Missing Dose E-mail Notification

EXHIBIT 28: MISSING DOSE E-MAIL NOTIFICATION

Subj: Missing Dose Request Entered [#7765114] 01 Apr 99 05:57 11 Lines
From: ACME Pill Pushers in 'IN' basket. Page 1 **NEW**

A request for a missing dose has been entered into the system.

Request IEN#: 15694

User Entering: DOMNANISH, JOAN
Patient: KZTAAR,*TEST*KEITH D
Ward Location: A3MED IM-L
Drug: ACETAMINOPHEN 325MG
Dose: 650MG
Time Needed: APR 1,1999@1700

Thank You

Select MESSAGE Action: IGNORE (in IN basket)//

3.13 Medication Variance Log

With the Medication Variance Log, users with the PSB Managers security key can print or display exceptions to medication administration.

See Section 3.2, Using ScreenMan Format to Request a Report, for instructions on requesting a Medication Variance Log.

The Variance Log can run by patient or by ward, as shown in Exhibit 29, Medication Variance Log Report by Patient, and Exhibit 30, Medication Variance Log Report by Ward.

EXHIBIT 29: MEDICATION VARIANCE LOG REPORT BY PATIENT

=====				=====			
MEDICATION VARIANCE LOG				Run Date: JUL 26, 1999@15:09			
				Page: 1			
Patient:	COSMO,RANDY B		SSN:	333-22-1111		DOB:	JAN 16,1924 (75)
Sex:	MALE		Ht/Wt:	170cm/82kg		Ward:	1-4CM-T Rm C417-01
Dx:	COPD		Last Mvmt:	APR 3,1999@14:49:21		Type:	DISCHARGE
Reactions: CODEINE							
=====							
Event	Date/Time	Event	Var	Medication			

JUL 16, 1999@12:51:20	EARLY/LATE DOSE	771	POTASSIUM CHLORIDE				
JUL 16, 1999@12:54:35	EARLY/LATE DOSE	774	POTASSIUM CHLORIDE				
JUL 16, 1999@14:49:11	EARLY/LATE DOSE	-84	BACITRACIN				
JUL 19, 1999@15:30:20	EARLY/LATE DOSE	-330	PHENYTOIN				
=====							
COSMO,RANDY B				333-22-1111		Ward: 1-4CM-T Room-Bed: C417-01	

☞ A variance preceded by a minus sign (such as -24) indicates the number of minutes a medication was given before the administration time.

EXHIBIT 30: MEDICATION VARIANCE LOG REPORT BY WARD

=====						Run Date: JUL 26, 1999@15:11		
MEDICATION VARIANCE LOG						Page: 2		
=====								
Ward Location: BCMA						Division: TOPEKA, KS		
=====								
Ward	Patient Name	Event Date/Time	Event	Var	Medication			

BCMA C517-01	ILLINOIS,BCPATIENT	APR 14, 1999@14:31:32	EARLY/LATE DOSE	544	POTASSIUM CHLORIDE			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	-99	ACETAMINOPHEN			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	-63	IPRATROPIUM			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	66	ARTIFICIAL TEARS			
		APR 14, 1999@15:23:08	EARLY/LATE DOSE	-337	DEXTROSE 5%/WATER			
		APR 14, 1999@15:50:41	EARLY/LATE DOSE	-430	PROCHLORPERAZINE			
BCMA C521-01	INDIANA,BCPATIENT	APR 14, 1999@14:31:32	EARLY/LATE DOSE	545	POTASSIUM CHLORIDE			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	-200	DIGOXIN			
		APR 14, 1999@14:49:40	EARLY/LATE DOSE	109	MOISTURIZING LOTION			
		APR 14, 1999@15:01:07	EARLY/LATE DOSE	511				
		APR 14, 1999@15:02:06	EARLY/LATE DOSE	511				
BCMA C522-01	IOWA,BCPATIENT	APR 14, 1999@14:31:32	EARLY/LATE DOSE	546	POTASSIUM CHLORIDE			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	580	POTASSIUM CHLORIDE			
		APR 14, 1999@14:53:47	EARLY/LATE DOSE	-127				
		APR 14, 1999@14:54:31	EARLY/LATE DOSE	-127				
		APR 14, 1999@14:55:51	EARLY/LATE DOSE	-125	ASCORBIC ACID			
		APR 14, 1999@15:01:29	EARLY/LATE DOSE	121	DIGOXIN			
BCMA 308-04	KANSAS,BCPATIENT	APR 14, 1999@14:31:32	EARLY/LATE DOSE	545	POTASSIUM CHLORIDE			
		APR 14, 1999@14:55:43	EARLY/LATE DOSE	115	AMOXICILLIN			
		APR 14, 1999@15:01:07	EARLY/LATE DOSE	121	DIGOXIN			
BCMA 309-01	KENTUCKY,BCPATIENT	APR 14, 1999@14:31:31	EARLY/LATE DOSE	266	CEFTAZIDIME			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	480	POTASSIUM CHLORIDE			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	-180	AMOXICILLIN			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	-453	CEFTAZIDIME			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	785	POTASSIUM CHLORIDE			
		APR 14, 1999@14:31:32	EARLY/LATE DOSE	820	POTASSIUM CHLORIDE			
		APR 14, 1999@15:04:30	EARLY/LATE DOSE	-116	ASCORBIC ACID			
		APR 15, 1999@13:46:31	EARLY/LATE DOSE	526	IPRATROPIUM			
		APR 15, 1999@13:46:45	EARLY/LATE DOSE	166	IPRATROPIUM			
		APR 15, 1999@13:48:56	EARLY/LATE DOSE	228	ARTIFICIAL TEARS			

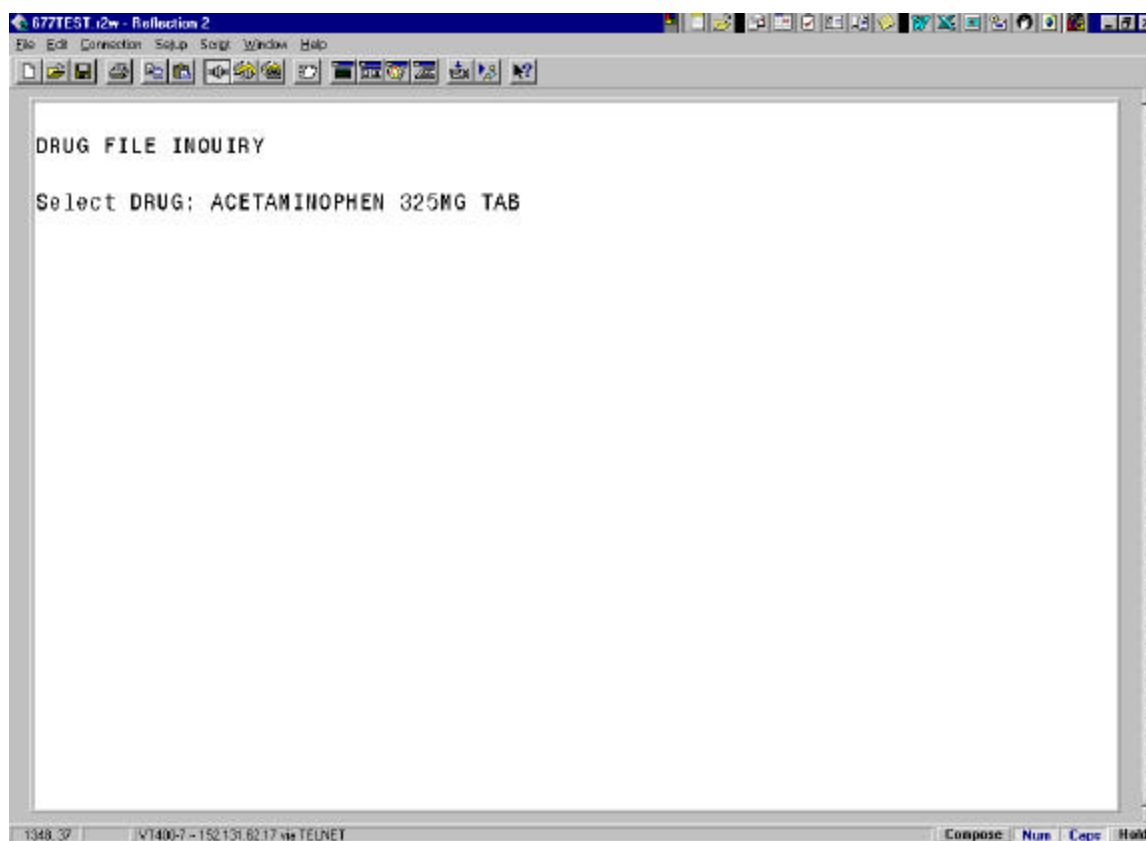
3.14 Drug File Inquiry

The Drug File Inquiry allows Nursing and Pharmacy to check the bar coded IEN numbers listed on unit dose drugs. If the incorrect bar code is affixed, the Drug File Inquiry will help the user resolve the discrepancy.

To run a Drug File Inquiry, perform the following steps:

1. In the Select Drug field of the screen, as shown in Exhibit 31, Drug File Inquiry Screen 1, type the name and dosage of the drug, and press <Enter>.
- ☞ To display a list of standard formats for listing a medication, enter ? in the Select Drug field, and press <Enter>.

EXHIBIT 31: DRUG FILE INQUIRY SCREEN 1



2. The Drug File information will display, as illustrated in Exhibit 32, Drug File Inquiry Screen 2.

EXHIBIT 32: DRUG FILE INQUIRY SCREEN 2

The screenshot shows a terminal window titled "677TEST.r2w - Reflection 2". The window contains the following text:

```
DRUG NAME: ACETAMINOPHEN 325MG TAB (IEN: 263)
-----
PRICE PER DISPENSE UNIT:      0.004
NATIONAL DRUG CLASS:          CN103
NON-FORMULARY:
QUANTITY DISPENSE MESSAGE:    DISPENSE IN MULTIPLES OF 100
CMOP DISPENSE:                YES
MESSAGE:                       90 DAY FILL *ATC A/B*

SYNONYMS:
      APAP                      TYLENOL
      ACET325                   000677000100
      051111048893
```

The status bar at the bottom of the window displays "415, 42" on the left, "VT400-7 -- 152.131.62.17 via TELNET" in the center, and "Compose Num Caps Hold" on the right.

- ☞ The Internal Entry Number (IEN) appears on the first line, to the right of the Drug Name. This IEN is unique to this drug file entry. In most cases, it is the bar coded number on the unit-dose packages that are created in the pharmacy. Manufacturers National Drug Code (NDC) bar codes may appear in the synonym field of this display. If the drug is non-formulary, the Non-Formulary field will be set to N/F.

4 GLOSSARY

This section contains acronyms and definitions for terms used in this document.

4.1 Acronyms

BCMA	Bar Code Med Admin
CHUI	Character-based User Interface
CPRS	Computerized Patient Record System
GUI	Graphical User Interface
HFS	Host File Server
HSM	Hospital supplied self-medications
IEN	Internal Entry Number
MAH	Medication Administration History
N/F	Non-formulary
NCD	National Drug Code
PC	Personal computer
PRN	Pro Re Nata [Latin]
SM	Self-medications
TCP/IP	Transmission Control Protocol/Internet Protocol
VA	Department of Veterans Affairs
VAMC	Veterans Affairs Medical Center
VDL	Virtual Due List
VHA	Veterans Health Administration
VISN	Veterans Integrated Services Network
VISTA	Veterans Health Information Systems and Technology Architecture

4.2 Definitions

Audits	Tracking changes to records including old data, new data, and the name of the user who made the change.
BCMA	Bar Code Med Admin is a VISTA software application that validates medications against active orders prior to being administered to the patient.
CPRS	The Computerized Patient Record System is a VISTA software application that provides an integrated patient record system for use by clinicians, managers, quality assurance staff, and researchers.

Given	When a medication is administered to the patient, it is considered Given.
HFS	Host File Server is a system (WinNT/Dec Alpha) file access mechanism that enables the M software to access the system-level files.
IEN Drug Code	The internal drug number (IEN) that is entered into Inpatient Medications V. 5.0
Not Given	A medication that is intentionally Not Given for a specified reason.
Omitted	A medication that was not given during the medication pass because it was unintentionally missed.
PRN	Latin abbreviation for <i>pro re nata</i> meaning “as needed.”
ScreenMan	VA FileMan's ScreenMan utility provides a screen-oriented interface for editing and displaying data.
SRS	Document which outlines the functional requirements for a project.
TCP/IP	A protocol developed by the Department of Defense for communications between computers. TCP/IP has become the standard for data transmission over networks, including the Internet.
VA FileMan	VISTA 's database management system.
VDL	The Virtual Due List is a GUI application used by nurses when administering medications.

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